

Electricity Quiz

(Handouts are allowed)

K/U	APP
/10	/5

A. MULTIPLE CHOICE: Write the final answer in the box on the right. [10 marks – K/U]

1. When a positively-charged object is near a negatively-charged object, they:

A. Attract
B. Repel
C. Attract then repel
D. Repel then attract

2. Which of the following is NOT a method to charge objects?

A. Friction
B. Induction
C. Deduction
D. Conduction

3. An ebonite rod is rubbed with fur. The ebonite rod becomes negatively charged because:

A. Protons transferred from the rod to the fur
B. Protons transferred from the fur to the rod
C. Electrons transferred from the rod to the fur
D. Electrons transferred from the fur to the rod

4. A neutral metal sphere is touched by a negatively charged metal rod. What type of charge does the sphere acquire?

A. Positive
B. Negative
C. Neutral
D. Polarized

5. Which of the following is a good insulator?

A. Nickel
B. Copper
C. Rubber
D. Gold

6. When you turn a switch on in a circuit, you are:

A. Completing an electrical circuit
B. Interrupting an electrical circuit
C. Reversing an electrical circuit
D. Running a circuit to ground

7. What does an ammeter measure?

A. Voltage
B. Current
C. Resistance
D. Energy

8. If potential difference is 6V and the current is 2A, what is the resistance in the circuit?

A. 12 Ω
B. 8 Ω
C. 4 Ω
D. 3 Ω

9. If you use a washing machine with a power rating of 500kW for 2 hours, how much electrical energy is used?

A. 250kWh
B. 1250kWh
C. 1000kWh
D. 500kWh

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10. What is the correct formula for percent efficiency (PE) of an electrical device?

A. $PE = \frac{\text{Useful energy output}}{\text{Total energy input}} \times 100\%$

C. $PE = \frac{\text{Useful energy output}}{\text{Total energy input}}$

B. $PE = \frac{\text{Useful energy input}}{\text{Total energy output}} \times 100\%$

D. $PE = \text{Useful energy output} \times 100\%$

B. SHORT ANSWER: Answer the following questions in the space below.

11. If a string of Christmas light bulbs were connected together in a series circuit, what would happen to the rest of the lights when one of them burned out? Explain your reasoning. [2 marks – APP]

12. Compare and contrast renewable and non-renewable sources of energy. What sources of electrical energy can best be developed in Ontario in the future? Explain your reasoning. [3 marks - APP]